

экономический рост, социальная интеграция и охрана окружающей среды. Только за счёт комплексных и продуманных стратегий Республика Беларусь сможет преодолеть существующие вызовы и обеспечить устойчивое развитие на долгосрочную перспективу.

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SMART COOPERATION IN SMALL AND MEDIUM BUSINESSES FOR THE SUSTAINABLE DEVELOPMENT OF A REGION

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Abstract. *Smart cooperation plays a vital role in helping small and medium businesses (SMEs) adopt digital tools. This study explores how SMEs can use collaboration to solve common problems like limited budgets, technology gaps, and employee skills. By examining real examples and simple strategies, the research shows how partnerships, shared platforms, and knowledge exchange make digitalization easier. The goal is to provide clear steps for SMEs to improve efficiency and grow sustainably.*

Keywords: digitalization, small and medium businesses, smart cooperation, challenges, opportunities.

Digital tools are changing how businesses work, but many SMEs find it hard to keep up. High costs, lack of training, and complex technologies often slow down progress. Smart cooperation – like teaming up with tech companies or joining local networks – helps SMEs share costs and learn faster.

This study focuses on practical ways for SMEs to start digitalization without big investments. It looks at cases where simple tools (e.g., online management systems) were successfully used through teamwork. The research highlights how focusing on collaboration can turn challenges into opportunities for SMEs to thrive in a digital world.

The digitalization path for SMEs shows considerable variation between countries and industries. Available literature suggests that while awareness of digitalization's value is increasing, actual adoption rates trail behind those of larger companies.

Research from developed nations often shows SMEs using e-commerce, cloud computing, and data analytics, although sophistication levels vary. Studies in developing economies frequently indicate more rudimentary digital adoption, centered on communication and basic online presence, often hampered by infrastructure shortcomings. For example, SMEs in some African nations might mainly use mobile banking and simple social media marketing due to poor internet access and limited tech know-how. These differences mirror the diverse levels of digital infrastructure and resource access faced by SMEs globally.

China offers a dynamic yet intricate landscape for SME digitalization. Propelled by strong government backing and a highly advanced digital ecosystem, many Chinese SMEs have adopted digital tools, especially for sales and marketing [1]. Nonetheless, substantial challenges persist and differ regionally. Recent literature and reports highlight:

Digitalization is typically more advanced among SMEs in coastal areas and tech sectors compared to inland regions and traditional industries. Firms in cities like Shanghai and Shenzhen often possess superior digital capabilities versus those in rural zones, attributable to better infrastructure, talent access, and business environments.

Despite advancements, fundamental issues remain: financial constraints, talent gap, technological integration, strategic clarity, platform influence. High perceived costs of sophisticated software, hardware, and hiring digital talent relative to SME finances make large digital investments difficult, often prioritizing short-term survival. A severe shortage of staff with the digital skills and strategic insight needed to guide and execute transformation effectively, particularly acute outside major talent hubs. Struggles in integrating new digital systems with current operations and older systems, alongside concerns about data security and return on investment (ROI). Aligning new tech with established practices can be complex and meet resistance. Absence of a distinct digital strategy often results in piecemeal tool adoption instead of systematic change. A coherent plan is vital for aligning digital efforts with business goals. The dominance of large tech platforms strongly shapes SME digitalization, providing accessible e-commerce routes but also fostering dependencies and competitive pressures (e.g., reliance on Alibaba, JD.com).

Across different settings, commonly documented challenges include: financial constraints, technological gap, talent and skills shortage, resistance to change. Perceived high costs for technology, implementation, and skilled staff. Limited understanding of available tech, integration difficulties, cybersecurity worries, unclear ROI. Problems attracting, keeping, and training digitally skilled workers; lack of in-house expertise. Organizational inertia, absence of digital leadership, and no clear digital strategy or vision. These interconnected challenges frequently reinforce one another, posing significant barriers. Overcoming them necessitates a varied approach tailored to each SME's specific situation.

Smart cooperation draws upon established theories concerning inter-organizational ties and strategic alliances. In this study, smart cooperation signifies more than basic networking. It points to deliberate, often technology-assisted, collaboration focused on mutual gain, resource efficiency, and shared innovation within the digital sphere. It encompasses elements like trust, a shared vision, and organized governance. Key underpinning theories are:

Resource-Based View (RBV): SMEs collaborate to gain access to complementary resources (tech, skills, market entry, data) they lack individually, thereby enhancing competitiveness. Collaboration creates a stronger resource base for digitalization.

Transaction Cost Economics (TCE): For certain digital activities, especially amid uncertainty and specific asset needs, cooperation can be more efficient than market dealings or full vertical integration, minimizing transaction costs. Cooperation allows risk-sharing and cost reduction in volatile digital environments.

Network Theory: Highlights how relationships, trust, social capital, and information flow within networks enable access to opportunities, knowledge, and collective action for digitalization. Networks provide support and resources difficult to obtain alone, amplified in today's digital business world.

Applications: Smart cooperation manifests in forms like joint R&D, shared marketing platforms, collective procurement of digital services (e.g., cloud computing, software), collaborative training, and involvement in data-sharing or industry platforms. For instance, industry peers might launch joint marketing campaigns or share digital infrastructure to cut costs. These applications show smart cooperation's flexibility as a digitalization strategy.

The main points to SMEs ways to cooperate for digitalization are:

Partnerships with Technology Companies: Working with IT vendors, software firms, consultants, or platform providers offers access to specialized tech, implementation skills, and

ongoing support. This can range from simple service contracts to co-development or joining vendor ecosystems (e.g., partnering to build a custom ERP).

Joining Industry Associations or Local Networks/Clusters: These forums enable knowledge sharing (best practices, warnings), joint advocacy for digital infrastructure or policies, collective bargaining for digital tools, and peer learning. In China, government-backed SME service centers or industrial clusters often fulfill this function (e.g., Dongguan Furniture Association aiding members with group purchases and training).

Utilizing Shared Platforms: SMEs can leverage common digital platforms or infrastructures, whether created jointly or provided by a third party. This includes large e-commerce sites (e.g., Taobao/Tmall, JD.com in China), industry-specific Industrial Internet Platforms, shared CRMs, or collaborative supply chain portals. Using these platforms cuts individual investment, yields network benefits, expands market reach, and streamlines operations.

Knowledge Exchange Mechanisms: Formal and informal methods like joint workshops, inter-firm mentoring (advanced firms helping others), university/research institution collaborations for R&D or talent, and government-sponsored training help close the skills gap and encourage innovation (e.g., university-SME internship programs). These methods facilitate knowledge and skill transfer, building SME digital capacity over time.

Reviewing scientific literature (including Chinese context sources like Li et al., 2023; CCID Consulting, 2024; MIIT, 2021) shows considerable research on SME digitalization hurdles and various business cooperation forms. Yet, there's a need for studies directly linking specific smart cooperation strategies as practical solutions to concrete SME digitalization obstacles. This includes integrating diverse cooperation models under one conceptual framework and considering factors like government initiatives and platform economies. Many studies address either challenges or general cooperation advantages, without deeply probing the implementation mechanics and success factors of using collaboration specifically for digital transformation.

Justification for Research Direction: This research seeks to fill that void. By centering on smart cooperation as an integrated strategy, it shifts from problem identification to proposing and assessing solutions relevant to SMEs, including those in environments like China. The core idea is that SMEs, through strategic selection and implementation of fitting cooperation models (tech partnerships, platform sharing, knowledge exchange), can surmount their inherent limitations (cost, tech access, skills) and realize significant digital transformation outcomes otherwise difficult or impossible alone. The study employs theoretical foundations and illustrative examples to explore this concept and offer actionable insights. This direction is especially pertinent in China, where active government promotion of digitalization offers a unique setting to study how smart cooperation functions within a supportive policy framework. Furthermore, China's rapid tech and platform development provides fertile ground for exploring novel cooperation models adaptable across industries and regions [2].

Technology cooperation involves SMEs working together, often with external partners like IT firms, research bodies, or even other SMEs having complementary skills, to gain access to, develop, or put digital technologies into practice.

Platform Sharing sees SMEs using common digital platforms or infrastructures. These might be created collaboratively or offered by a third party (including major tech companies, industry associations, or government programs like China's Industrial Internet Platforms).

Knowledge Exchange and Training centers on collaborative initiatives designed to build digital skills among staff and share knowledge about adopting and effectively using digital tools and strategies.

Compatibility between new digital tools and existing systems is vital; modular designs and open standards can help (e.g., cloud solutions integrating with on-premise systems). Technologies should also be scalable to support future growth, allowing SMEs to start modestly and expand digitally over time.

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